State of New Hampshire
Department of Health and Human Services
Division of Public Health Services

West Nile Virus and Mosquitoes in New Hampshire

Have mosquitoes tested positive for West Nile Virus in New Hampshire?

Yes. New Hampshire (NH) discovered its first positive mosquitoes during the 2001 season, when 3 mosquito pools tested positive. In 2002, there were 33 positive pools, and in 2003, there were 6 positive pools. It is apparent that infected mosquitoes will continue to exist and be active in NH during the summer and early fall time frame.

How are mosquitoes collected for testing?

Mosquitoes are collected primarily in two types of traps.

- *CDC Light traps* are suspended off the ground and a source of carbon dioxide, usually from dry ice, is used as the primary attractant. A small light is also incorporated into the trap. When the mosquito approaches the trap, a battery-powered fan draws the mosquito into the trap netting.
- *Gravid* traps are containers that hold a stagnant water solution. These traps are placed on the ground and attract gravid (pregnant) female mosquitoes. As the female lands to lay eggs, the battery-powered fan draws them up a tube and they are caught in the trap netting.

What is a mosquito pool?

After mosquitoes are collected, they are sorted by species of mosquito, date of collection, and the trap location and are placed in tubes and coded to reflect this information. The tubes are then sent to the NH Public Health Laboratories for testing. This tube is called a "pool." There are no more than 50 mosquitoes in each pool.

How many mosquitoes have been collected for surveillance purposes?

Tens of thousands of individual mosquitoes have been collected over the past three seasons.

What is the time frame when mosquitoes are usually found to be infected?

Since 2001, a seasonal pattern has been clearly established. The earliest positive mosquitoes have been collected in late August and the latest collection has been in mid September.

When am I at greatest risk for contracting West Nile virus in New Hampshire?

Anytime mosquitoes are actively biting, you may be at risk for contracting WNV. Based on data collected from prior seasons, virus has been detected in mosquitoes from late August through mid September.

What types of mosquitoes have been found to be infected with WNV in New Hampshire?

The following mosquito species have been trapped and tested positive:

Culex pipiens; Culex pipiens/restuans; Culex restuans; Ochlerotatus canadensis; Ochlerotatus japonicus; Coquillettidia perturbans; Anopheles punctipennis; and, Anopheles walkeri.

Do these types of mosquitoes bite humans?

Aedes species - These are sometimes called "floodwater" mosquitoes because flooding is important for their eggs to hatch. They include such species as the yellow-fever mosquito (*Aedes aegypti*) and the Asian tiger mosquito (*Aedes albopictus*). They are strong fliers, capable of traveling great distances (up to 75 miles/121 km) from their breeding sites. They persistently bite mammals, *especially humans*, mainly at dawn and in the early evening. Their bites are painful.

Anopheles - These tend to breed in bodies of permanent fresh water. They include several species, such as the common malaria mosquito (*Anopheles quadrimaculatus*), that can spread malaria to humans.

Culex - These tend to breed in quiet, standing water. They include several species such as the northern house mosquito (*Culex pipiens*). They are weak fliers and tend to live for only a few weeks during the summer months. They persistently bite *preferring birds over humans* and attack at dawn or after dusk. Their bite is painful. Culex pipiens/restuans have the highest WNV infection rates.

Some mosquitoes, such as the cattail mosquito (Coquilettidia perturbans), are becoming more prevalent pests as humans invade their habitats.

What can I do to reduce the number of mosquitoes on my property?

Here are some steps that you can take:

- Remove all discarded tires from your property. The used tire has become the most important domestic mosquito-breeding habitat in this country.
- Do not allow water-holding containers. Dispose of tin cans, plastic containers, ceramic pots, or similar water-holding containers. Do not overlook containers that have become overgrown by aquatic vegetation.
- Drill holes in the bottom of recycling containers that are left out of doors. Drainage holes that are located on the sides collect enough water for mosquitoes to breed in.
- Make sure roof gutters drain properly. Clean clogged gutters in the spring and fall.
- Tightly screen "rain barrels" to ensure mosquitoes can't deposit eggs in or on the water.
- Clean and chlorinate swimming pools, outdoor hot tubs. If not in use, keep empty and covered.
- Drain water from pool covers.
- Aerate ornamental pools or stock them with fish. Water gardens are fashionable but become major mosquito producers if they are allowed to stagnate.
- Turn over wheelbarrows and change water in birdbaths at least twice weekly. Both provide breeding habitat for domestic mosquitoes
- Eliminate any standing water that collects on your property. Use landscaping as needed. Mosquitoes will develop in any puddle that last more than 4 days.
- Remind or help neighbors to eliminate breeding sites on their properties.

Make sure that doors and windows have tight-fitting screens. Repair or replace all screens in your home that have tears or holes.

For more information call the
New Hampshire Department of Health and Human Services,
West Nile Virus Information line
1-866-273-NILE (6453)